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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,071	04/03/2001	John A. Aiken JR.	RSW920000153US1	1940

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EXAMINER

PEREZ DAPLE, AARON C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,071

Applicant(s)

AIKEN, JOHN A.

Examiner

Aaron C Perez-Daple

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to Amendment filed 10/27/04, which has been fully considered.
2. Amended claims 1-37 are presented for examination.
3. This Action is FINAL.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-5, 11-13, 16, 22-24, 27, and 33-35** are rejected under 35 U.S.C. 102(e) as being anticipated by Modi et al. (US 6,587,866 B1) (hereinafter Modi).
6. As for claims 1, 16 and 27, Modi teaches a method and system of providing server affinities for related connection request messages in networking environments which perform workload balancing, comprising:

signaling, with an executing server application, that an affinity with a selected source is to be started (col. 9, line 66 – col. 10, line 46, “Fig. 6 is a...better load balancing.”); and

bypassing normal workload balancing operations, in response to the signaling, for subsequent connection request messages from the selected source while the affinity persists (col. 10, line 26 – col. 11, line 3, “If the service...and service port.”).

7. As for claim 2, Modi discloses the method according to claim 1, wherein the selected source is a selected client (clients 121-123, Fig. 1).
8. As for claim 3, Modi discloses the method according to claim 2, wherein the selected client is identified by its Internet Protocol ("IP") address (col. 10, line 26 – col. 11, line 3, "If the service...and service port.").
9. As for claim 4, Modi discloses the method according to claim 2, wherein the selected client is identified by its Internet Protocol ("IP") address and port number (col. 10, line 26 – col. 11, line 3, "If the service...and service port.").
10. As for claim 5, Modi discloses the method according to claim 1, wherein the selected source is a selected client subnetwork (clients 121-123, Fig. 1).
11. As for claims 11, 22 and 33, Modi discloses the method and system according to claims 1, 16 and 27, wherein the bypassing step causes the subsequent connection request messages from the selected source to be routed to an instance of the executing server application which signaled the affinity start (col. 15, line 45 – col. 16, line 9, "A fourth packet...the same node.").
12. As for claims 12, 23 and 34, Modi discloses the method and system of routing related connection requests in a networking environment which performs workload balancing, comprising:
 - storing information for enforcing one or more currently-active affinities, responsive to receiving start affinity requests for each such currently-active affinity from one or more executing server applications (col. 10, line 26 – col. 11, line 3, "If the service...and service port.");

Art Unit: 2154

receiving incoming connection requests from client applications (col. 2, line 48 – col. 3, line 13, “Certain applications...and scalable service.”); and

routing each received connection request to a proper one of the executing server applications, further comprising:

selecting a particular one of the executing server applications using the stored information for enforcing affinities, when the client application sending the received connection request is identified in the stored information as having one of the one or more currently-active affinities with the particular one of the executing server applications (col. 10, line 26 – col. 11, line 3, “If the service...and service port.”; col. 15, line 45 – col. 16, line 9, “A fourth packet...the same node.”); and

selecting the particular one of the executing server applications using workload balancing when the client application sending the received connection request is not identified in the stored information as having one of the one or more currently active affinities with the particular one of the executing server applications (Fig. 6; col. 10, line 26 – col. 11, line 3, “If the service...and service port.”).

13. As for claims 13, 24 and 35, Modi discloses the method and system according to claims 12, 23 and 34, wherein the client application is identified as having one of the currently-active affinities with the particular one if a destination address and destination port, as well as a source address and optionally a source port number, of the connection request being routed match the stored information (col. 10, line 26 – col. 11, line 3, “If the service...and service port.”; col. 15, line 45 – col. 16, line 9, “A fourth packet...the same node.”).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. **Claims 6, 14, 17, 25, 28 and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Modi in view of Dutta et al. (US 6,546,423 B1) (hereinafter Dutta).
16. As for claims 6, 17 and 28, although arguably inherent to Modi for managing the affinities and preventing a memory overflow, Modi does not explicitly disclose signaling that the started affinity (e.g. session) with the selected source is to be ended. Dutta teaches signaling that the started affinity with the selected source is to be ended in order to save memory resources (col. 4, lines 41-46, "In one embodiment...deleted, step 107."). It would have been obvious to one of ordinary skill in the art to modify Modi by signaling that the started affinity with the selected source is to be ended in order to save memory resources, as taught by Dutta above. The Examiner notes that once this modification was made a subsequent connection request would be processed via normal workload balancing operations, since it would be treated as a new request.
17. As for claims 14, 25 and 36, Modi does not explicitly disclose removing stored information for enforcing selected ones of the currently-active affinities, responsive to receiving an end affinity request from selected ones of the executing server applications which stored the information. Dutta teaches removing stored information for enforcing selected ones of the currently-active affinities, responsive to receiving an end affinity request

Art Unit: 2154

from selected ones of the executing server applications which stored the information for the purpose of saving memory resources (col. 4, lines 41-46, "In one embodiment...deleted, step 107."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Modi by removing stored information for enforcing selected ones of the currently-active affinities, responsive to receiving an end affinity request from selected ones of the executing server applications which stored the information in order to save memory resources, as taught by Dutta above.

18. **Claims 7-10, 15, 18-21, 26, 29-32 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Modi in view of Dutta and in further view of Robsman et al (US 6,466,225 B1).
19. As for claims 7, 18 and 29, Modi and Dutta do not specifically disclose that the affinity may persist for a maximum duration (i.e. may be terminated after a certain time period) before reverting to normal workload balancing operations. Robsman teaches that an affinity may persist for a maximum duration (e.g. timeout period) before reverting to normal workload balancing operations in order to free system resources (col. 1, lines 17-56, "The server runs...predefined time period."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Modi and Dutta by having an affinity persist for a maximum duration before reverting to normal workload balancing operations in order to free system resources, as taught by Robsman above.
20. As for claims 8, 19 and 30, Modi and Dutta do not specifically disclose that the executing server application may override the maximum duration when signaling the start of an affinity. Robsman teaches that an executing server application may override the maximum

duration when signaling the start of an affinity in order to keep an affinity active during communications (col. 2, line 28 – col. 3, line 6, “According to one...from the bucket.”). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Modi and Dutta by having an executing server application override the maximum duration when signaling the start of an affinity in order to keep an affinity active during communications, as taught by Robsman above.

21. As for claims 9, 10, 20, 21, 31 and 32, Modi and Dutta do not specifically disclose that a subsequent connection request message may automatically extend the maximum duration of the started affinity. Robsman teaches that a subsequent connection request message may automatically extend the maximum duration of a started affinity in order to keep an affinity active during communications (col. 2, lines 61-64, “A new session...timeout period.”) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Modi and Dutta by having a subsequent connection request message automatically extend the maximum duration of a started affinity in order to keep an affinity active during communications, as taught by Robsman above.

22. As for claims 15, 26 and 37, Dutta teaches removing the stored information for enforcing selected ones of the currently-active affinities, responsive to termination of an affinity in order to save memory resources (col. 4, lines 41-46, “In one embodiment...deleted, step 107.”). Dutta does not specifically teach that the termination of an affinity may occur responsive to expiration of a duration value. Robsman teaches that the termination of an affinity may occur responsive to expiration of a duration value for the purpose of freeing system resources (col. 1, lines 17-56, “The server runs...predefined time period.”). It would

Art Unit: 2154

have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Modi and Dutta by having the termination of an affinity occur responsive to expiration of a duration value for the purpose of freeing system resources, as taught by Robsman above.

Response to Arguments

Claim Objections

23. Objections to claims 9, 10, 20, 21 and 31 are hereby withdrawn in view of Amendment.

112 Claim Rejections

24. The rejections of claims 1-37 under 35 USC 112, second paragraph, are hereby withdrawn in view of Amendment.

Double Patenting

25. The provisional rejection of claims 1-37 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 09/824639 is hereby withdrawn in view of the Terminal Disclaimer filed 10/27/04.

102 Claim Rejections

26. Applicant's arguments filed 10/27/04 have been fully considered but they are not persuasive.

On pages 11 and 12 of the Remarks, Applicant makes a first assertion that Modi fails to teach that “a portion of the system can change from a ‘non-affinity policy’ into an ‘affinity policy’ to start an affinity with a particular source of messages. This limitation is not found in the claims (i.e. the claims do not require switching from a non-affinity to an affinity policy), therefore this portion of the argument is moot. The claims actually recite the limitation “signaling, with a server application, that an affinity with a selected source is to be started.” Applicant makes a second assertion that Modi “provides no description whatsoever that a server application can start an affinity with a particular source.” The Examiner respectfully disagrees. As illustrated in Fig. 6 and described in col. 9, line 66 – col. 10, line 63, the server first makes a determination as to whether or not the requested service requires client-affinity (steps 603 and 605). If the service is a client-affinity type, then the server tests whether the affinity has already been established (step 609). If it has not already been established, then the affinity is started in steps 612-614. Thus, the Examiner interprets that steps 605 and 609, both independently and together, comprise signaling that client affinity with the source is to be started.

Therefore, claims 1-5, 11-13, 16, 22-24, 27, and 33-35 are properly rejected under 35 USC 102(e) as anticipated by Modi.

103 Claim Rejections

27. On pages 12 and 13 of the Remarks, Applicant asserts that Dutta discloses termination of a load balancing rule and fails to “disclose or suggest starting or stopping a bypassing of the load balancing rule based on an affinity, and, consequently, does not disclose or suggest ending bypassing of a load balancing rule in response to signaling from a server application.”

The Examiner respectfully disagrees. Specifically, as would be understood by one of ordinary skill in the art, a “session” as used in Dutta is a type of client-affinity. That is, as shown in Fig. 3, a particular rule is established for routing messages from the client while the session persists, where the rule may include routing all messages to a particular server (col. 5, lines 1-8). Once the session (affinity) is terminated, the rule is deleted and “normal” workload balancing is used for subsequent requests. Thus, Dutta teaches precisely the claimed functionality. Moreover, this limitation is arguably inherent to the Modi reference, as would be understood by one of ordinary skill in the art, because otherwise the client-affinity would persist indefinitely, wasting valuable system resource, and eventually using up all the available memory.

Second, Applicant asserts that the Examiner has failed to provide clear and particular evidence for why one of ordinary skill in the art would have been motivated to modify Modi according to the teachings of Dutta. To the contrary, the Examiner has explicitly provided the motivation for combining references in the rejection as being for conserving memory resources, as clearly recited in Dutta in col. 4, lines 41-46.

Therefore, claims 6, 14, 17, 25, 28 and 36 are properly rejected under 35 U.S.C. 103(a) as being unpatentable over Modi in view of Dutta.

28. On pages 13-14 of the Remarks, Applicant asserts that Robsman fails to teach or suggest that a client affinity persists for a maximum duration, after which the bypassing of normal workload balancing operations ceases. The Examiner respectfully disagrees. Once again, the Examiner interprets that the “session” of Robsman is a type affinity, as would be understood by one of ordinary skill in the art. Therefore, in teaching “session timeout,”

Art Unit: 2154

Robsman also teaches that an affinity may persist for a maximum duration (after which it would “timeout”). Robsman is relied on only to teach that an affinity may persist for a maximum duration. Modi and Dutta already teach bypassing normal workload balancing operations and returning to normal workload balancing operations when the affinity is terminated, as detailed above. Thus, Robsman is not required to teach this limitation of the claims.

The Examiner further notes that after terminating the affinity *for any reason*, the system of Modi would *inherently* return to “normal workload balancing operations,” which the Examiner interprets to be the state prior to assigning an affinity.

Moreover, contrary to Applicant’s assertion, terminating a session as taught by Robsman in *no way* prevents further communications from the client. In other words, a new session could still be established upon receipt of a new request from the client, as would be understood by one of ordinary skill in the art.

For all of these reasons, claims 7-10, 15, 18-21, 26, 29-32 and 37 are properly rejected under 35 U.S.C. 103(a) as being unpatentable over Modi in view of Dutta and in further view of Robsman.

Conclusion

29. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

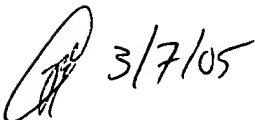
Art Unit: 2154


MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C Perez-Daple whose telephone number is (571) 272-3974. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Aaron Perez-Daple

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